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EXAMINER

TSOY, ELENA

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 01/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/061,151

Applicant(s)

SCHWARTZ ET AL.

Examiner

Elena Tsoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

***Response to Amendment***

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Amendment filed on December 24, 2003 has been entered. Claim 1 has been cancelled. Claims 2-20 are pending in the application.

***Specification***

Objection to the disclosure because of informalities has been withdrawn because, as explained by Applicants, it is clear from the specification as filed that Applicants intended the word "salt" to include oxides and hydroxides.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 2-9, 11-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Dattilo (US 6,291,018) and incorporated by reference McMonigal et al (US 5,196,485) in view of Rehmer et al (US 5,162,415 corresponding to DE 3930585 submitted by the Applicants).

As to claims 8, 9, 11, 12, 15, 17, Dattilo discloses a method of coating shaped metal components (See column 2, lines 63-67; column 3, lines 1-4) to provide protection from corrosion, chipping, etc. (See column 1, lines 35-28) by applying a first basecoat with 15-60 % solid content to the surface and then applying a second basecoat (further coating composition) to the surface

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provided with the first basecoat (See column 2, lines 1-4), the first basecoat being waterborne compositions such as suitable acrylics comprising copolymers of acrylic, methacrylic acids and alkyl esters thereof, optionally with other ethylenically unsaturated monomers (See column 4, lines 12-45). The second basecoat is applied to the first basecoat before the first basecoat is dried (See column 7, lines 53-57). The second basecoat may of any known acrylic resins (See column 4, lines 13-16, 29-43) such as those disclosed in incorporated by reference McMonigal et al, which have Tg of more than 20°C (See column 3, lines 8-25).

However, Dattilo fails to teach that (i) the copolymers of the waterborne compositions, obtained in the presence of anionic emulsifier, have a glass transition temperature below 0 °C and contain from 80 to 99.5% by weight of at least one monoethylenically unsaturated, hydrophobic monomer A, from 0.5 to 10% by weight of at least one monoethylenically unsaturated monomer B selected from monocarboxylic acids, dicarboxylic acid and their anhydrides, and if desired from 0 to 10% by weight of one or more ethylenically unsaturated monomers C, different than the monomers A and B, the weight fractions of the monomers A, B and C adding up to 100% by weight, and (ii) at least one water-soluble salt or complex salt of an at least divalent metal cation (Claim 16) such as  $Zn^{2+}$  or  $Ca^{2+}$  (Claim 2), the molar ratio of carboxyl groups of the monomers B to equivalents of the metal cation in the composition is in the range from 10:1 to 1:10 (Claim 3), the monomer A is selected from the C<sub>1</sub>-C<sub>10</sub> alkyl esters of acrylic acid, the C<sub>1</sub>-C<sub>10</sub> alkyl esters of methacrylic acid, and vinylaromatic compounds (Claim 4), the monomer B is selected from acrylic acid and methacrylic acid (Claim 5), the first basecoat, based on its overall weight, contains from 10 to 50% by weight of copolymer (Claim 6), the first basecoat per 100 parts by weight contains from 5 to 300 parts by weight of at least one inorganic filler, at least one pigment, or a mixture of at least one inorganic filler and at least one pigment as component iii) (Claim 7),

the first basecoat is applied in an amount of from 50 to 500 g/m<sup>2</sup> (about 40-400 microns thickness), calculated as nonvolatile constituents of the composition (Claim 13), the first basecoat comprises: i) from 20 to 90% by weight of [A], ii) from 0.1 to 5% by weight of metal ions, iii) from 2 to 25% by weight of at least one pigment and/or from 10 to 60% by weight of at least one filler, the total amount of pigment+filler not exceeding an overall amount of 75% by weight, and iv) from 0.1 to 20% by weight, of customary auxiliaries (Claim 14); the basecoat contains at least 5 %, 10 % or 15 % by weight of water (Claims 18-20).

Rehmer et al teach that a water-dispersible (See column 8, lines 37-38) coating composition (See column 13, lines 20-21) comprising 3-75 wt % solids of one or **more** polymer resins A (See Abstract) having a glass transition temperature T<sub>g</sub> of -30 °C to about -10 °C (below 0 °C) (See column 7, lines 63-66), prepared by emulsion copolymerization (See column 8, lines 33-34) of from 50 to 99.9 wt % of (a) monomeric C<sub>1</sub>- C<sub>12</sub> alkyl ester of acrylic and methacrylic acid (See column 2, lines 65+) and 0.1 to 12 wt % of (b) alpha,beta-unsaturated carboxylic acid such as acrylic and methacrylic acid (See Abstract), a and b adding up to 100 parts by weight of a polymer resin A (See Abstract) in the presence of an anionic emulsifier (See column 8, lines 40-47); one or more water-soluble polyvalent metal cations salt C (See Abstract), such as Zn <sup>2+</sup> (See column 10, lines 47-48, 54) in an amount capable of neutralizing 0.5-2 times the amount of acid functions of b (See column 11, lines 12-14), up to about 85 wt % of filler F (See Abstract) including pigments (See column 12, lines 20-21) and other fillers (See column 12, lines 15-20), and minor amount of customary auxiliaries (See column 12, lines 43-59). The water-dispersible coating composition, when used for coating various surfaces including metal parts (See column 13, line 26) provides sufficient resilience and does not crack under external temperature changes (See column 13, lines 12-18).

In other words, a secondary reference of Rehmer et al is relied upon to show that a water-dispersible coating composition, which substantially identical to the composition of claims 16, 2-7, 14, can be advantageously used for coating metal components. As to concentration limitations of claim 14, it is held that concentration limitations are obvious absent a showing of criticality. *Akzo v. E.I. du Pont de Nemours* 1 USPQ 2d 1704 (Fed. Cir. 1987). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have discovered the optimum or workable ranges of concentration limitations (including those of claim 14) in Rehmer et al by routine experimentation in the absence of a showing of criticality.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a water-dispersible coating composition of Rehmer et al as a first waterborne basecoat in a method of Dattilo with the expectation of providing the desired sufficient resilience and absence of crack under external temperature changes, as taught by Rehmer et al.

As to claims 13, 18-20, Dattilo further teaches that after the first basecoat layer is applied, the coated substrate 12 preferably enters a first flash chamber 40 in which the air velocity, temperature and humidity are controlled to control evaporation from the deposited first basecoat layer to form a first basecoat layer with sufficient moisture content or "wetness" such that a substantially smooth, substantially level film of substantially uniform thickness is obtained without sagging (See column 7, lines 50-67). In other words, "wetness" limitations are result-effective parameters in a coating process. Coating thickness is also result-effective parameter in a coating process.

It is held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant wetness and thickness parameters (including those of claims 13, 18-20) in Dattilo and incorporated by reference McMonigal et al in view of Rehmer et al through routine experimentation in the absence of a showing of criticality.

3. **Claims 2-10, 13-16, 18-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 52093122 in view of Rehmer et al (US 5,162,415).

As to claims 8-10, 15, JP 52093122 discloses a method of coating a metal component 1 such as roofing material to provide protection from corrosion comprising applying a basecoat 2 of e.g. acrylic resin, granules 3 having a granular size of 0.1-2 mm over the basecoat 2 and overcoat 4 of e.g. acrylic resin over the granules (See Abstract).

JP 52093122 fails to teach that the basecoat has limitations of claims 16, 2-7, 14. JP 52093122 also fails to teach limitations of claims 13, 18-20.

As to claim 16, 2-7, 14, Rehmer et al are applied here for the same reasons as above, i.e. a secondary reference of Rehmer et al are relied upon to show that a water-dispersible coating composition, which is substantially identical to the composition of claims 16, 2-7, 14, can be advantageously used for coating metal components.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a water-dispersible coating composition of Rehmer et al as a first basecoat in a method of JP 52093122 with the expectation of providing the desired sufficient resilience and absence of crack under external temperature changes, as taught by Rehmer et al.

Limitations of claims 13, 18-20 would be obvious for the same reasons discussed above.

*Response to Arguments*

4. Applicant's arguments with respect to claims 2-20 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (571) 272-1429. The examiner can normally be reached on Mo-Thur. 9:00-7:30, Mo-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for all communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Elena Tsoy  
Examiner  
Art Unit 1762

January 8, 2004